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ABSTRACT

Since the mid-1970s, schemes that provide links between education and business have burgeoned in Scotland. In 1992, the Scottish Office Education Department (SOED) decided to fund a research project that aimed to map and analyze the range and complexity of education-industry links in Scotland and to suggest the most fruitful areas for future policy development. Data were derived from interviews conducted with key individuals involved in business-education links from education authorities, the Technical and Vocational Educational Initiative (TEVA), schools, and industry. Eight case studies also examined the following topics: pupil work experience, teacher placements, enterprise activity in the primary sector, education-business development in one secondary school, education-business links from the perspective of small businesses, mentoring within a Compact, the development of education-business partnerships, and the concept of "progression" in such partnerships. Findings indicate that an enormous amount of time, money, and energy went into developing education-business links in Scotland. However, interview respondents often described initiatives as being high profile and short-term. Some patterns of partnership development are as follows: (1) cycles of economic optimism and pessimism influence policy and lead to either long-term or short-term reforms; (2) education-business links have greater impact when they are part of long-term reforms; (3) the focus of business-education partnerships keeps shifting from "relevance" to "competitive excellence"; and (4) schools adopt policy to match their own values through a process of domestication and negotiation. The case studies suggest that educational practices have not changed much in Scotland. Little consensus exists about the focus or meaning of education-business links, nor is there evidence for such partnerships' effects on the economy or on learning outcomes. Some recommendations include: evaluate the long-term learning gains and economic consequences of business-education links; integrate such links into other progressions; maintain a central resource on developments in business-education links; and build research into educational development. (LMI)

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Education–Business Links in Scotland: Patterns of Partnership

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Background

Since the mid-1970s, schemes that provide links between education and business have burgeoned. In 1992 the Scottish Office Education Department (SOED) decided to fund a 'stocktaking exercise'. Researchers in the Department of Education at the University of Stirling began work in September 1992. The main aims of the project were to map and analyse the range and complexity of education–industry links in Scotland and to suggest the most fruitful areas for future policy development.

Research methods

The researchers interviewed key people involved in education-business links in education authorities, the Technical and Vocational Education Initiative (TVEI), schools and industry. These initial interviews provided factual information and names of further contacts, plus a range of issues and questions for further investigation. A search of the literature helped to place the Scottish picture in an international context.

In addition, eight case studies were undertaken into specific topics:

- pupil work experience;
- teacher placements;
- enterprise activity in the primary sector;
- education–business development in one secondary school;
- education–business links from the perspective of small businesses;
- 'mentoring' within a Compact;
- the development of education–business partnerships;
- the concept of 'progression' in education–business schemes.

The current state of education–business links in Scotland

There is a great deal of education–business link activity going on in schools. A representative from one education authority identified as many as 33 different schemes and activities and many secondary schools offer pupils a dozen or more. The aims of the schemes vary: they cover general aims such as developing confidence or 'enterprise'; enhancing vocational skills and knowledge; or more specific objectives such as testing career aspirations.

- *Government sponsored schemes.* The chief of these is the TVEI, although 'education–business links' is only one of its thrusts. The Teacher Placement Service (TPS), Compacts, and education–business partnerships also fall into this category.

- *Major commercial and industrial companies.* Many 'household name' companies link with schools in a number of ways — responding to national schemes and initiating their

own. Some companies tend to operate at a local level near their plants, or have a limited focus to their activity, while others have a national profile. Yet other firms get involved in education–business links through membership of an industry-wide umbrella organisation — the Banking Information Service (BiS) and the Construction Industry Training Board (CITB) are prominent examples. Little is known about the involvement of small and medium sized businesses in education–business links —a possible area for future research. In addition to national schemes many education authorities and schools have mounted their own initiatives.

- *Other organisations*. Organisations such as Understanding Industry, Young Enterprise—Scotland, and the Industrial Society provide a range of educational activities for schools. They rely on financial support from companies and also on the time and expertise of individuals from the business sector. Various schemes are operated by the safety services. These have a different motivation but involve pupils in contact with the world of work.

The research identified a large range of different schemes for linking education with business.

Which of these best serve the goals of school development planning?

However, there are other ways of making sense of the great variety of overlapping initiatives in Scotland, as shown below. Readers should bear in mind that most of the activity lies within the first category — **education into business**.

Category of activity	*Examples*
Education into business	**Pupils:** work experience; work shadowing; project work; visits; investigations for examinations; special simulations/workshops; Young Enterprise (usually on employer's premises) **Teachers:** placements; longer term secondments; visits alongside pupils
Business into education — responding to outside schemes and requests	**Formal:** membership of school boards; *ad hoc* education–business links committees; Young Enterprise area boards, etc **Consultants:** as part of organised activities eg Young Enterprise and Challenge of Industry/Awareness of Industry days **Informal:** usually at school level, eg contributions to courses; interview practice; mentoring
Business into education — 'industry' initiated schemes	**Industry wide schemes:** umbrella organisations, eg Banking Information Service; Construction Industry Training Board, TUC's 'Adopt a school'; Scottish Association of Agriculture's 'Farm Link' scheme; a range of engineering industry schemes links; Neighbourhood Engineers; Opening Windows on Engineering; Women into Science and Engineering **Company policy initiatives:** eg BP, BT link schools; Safeway - teacher placements; GEC-Ferranti simulations at Edinburgh; British Steel enterprise activities in Motherwell; Digital Equipment Challenge in Ayrshire; M & S primary school projects **Production of resources:** now usually linked to specific Standard Grade/ Higher courses or to 5–14 curriculum **Promotions:** eg Tesco computers for schools **Bursaries:** eg British Gas, BT **Competitions:** eg Gardner Merchant award for excellence in education–business partnerships **Sponsorship:** eg BP £3m 'Aiming for a college education'

A look at some of the major activities

Work experience

Work experience is the 'fulcrum' around which programmes in schools are organised. The efforts of TVEI and the Enterprise and Education Initiative (1988-91) have changed it from a vocational activity for a minority of 'early leavers' into a mainstream educational activity for the majority of pupils. Most pupils undertake work experience in S4. However, this timing is frequently questioned because many more pupils now remain at school after age 16. Attempts to blend work experience into the mainstream curriculum include introducing briefing and debriefing sessions, log books and certification. Over 24,000 students registered for a National Certificate module in Work Experience in 1991/92 and another 4,000 undertake their placements as part of a Standard Grade Social and Vocational Skills course.

Currently work experience is an almost universal activity for S4 pupils.

Should this situation continue and, if so, how can the costs be justified?

Work experience schemes are popular and are seen to have many benefits. Work experience is said to motivate pupils for later school work. In addition pupils appear to gain confidence and self-esteem, to acquire information about available careers and to have a chance to test out possible careers. Above all, they seem to appreciate being treated as adults, having genuine responsibilities and being able to sample the 'real world'. There are benefits, too, for teachers, schools and employers. But there are costs in maintaining a placement system which an education authority has to bear. There can also be disruption of lessons if placements stretch over several weeks. Employers, too, have to devote time to supervision, but most welcome the opportunity to make a 'contribution to the community'. Nevertheless, work experience is now an accepted activity, for the business community as well as schools. It is expected to continue.

Teacher placements

Teacher placement is a valued but expensive form of staff development, which relatively few teachers currently take part in.

How can teacher placements be structured to influence developments in schools more generally?

Despite a large increase in the numbers of Scottish teachers undertaking a business placement (from 38 in 1988 to 1,724 in 1992/3), this remains a minority activity. Nevertheless, the benefits of teacher placements include: personal and professional development for the teachers concerned; improved general education–business links; an opportunity to improve business's knowledge of recent developments in education; and specific technical input to courses. The costs include: staff cover; time and possible loss of production by employers who devise specially tailored programmes; wasted time from poorly planned placements, and loss of continuity in teaching for pupils over a short period.

Mentoring in Compacts

Compacts began in Boston, USA, in 1982. *'The key to Compact is the bargain between young people and employers. Young people work towards agreed personal goals [...]. In return employers commit jobs with training or training leading to a job for those who achieve their goals.'* (*Compacts at Work*. Business in the Community, 1992)

A case study describes a pilot scheme whereby pupils within a Compact who were just failing to meet the agreed goals were teamed with a 'mentor' from the local business community. Mentors undertook to act as 'friends' and 'role models' (that is, a different relationship from pupil/teacher or child/parent), meeting the pupils on a regular basis for discussion. The young people themselves undoubtedly benefited from the extra face to face contact with people fresh from the work environment and there may well be further spin-offs for the schools concerned in terms of enhanced contacts with local firms. This more direct involvement may well suit devolved school management systems, although schools need to be aware of the danger of responding too closely to the recruitment needs of local businesses. Mentoring seems worthy of wider exploration.

Enterprise

'Enterprise' is capable of many interpretations, from taking part in small-scale business and community enterprise projects to developing the qualities needed to be an enterprising person, such as the ability to tackle problems, take initiatives, persevere, be flexible and work in teams. Initially developed in secondary schools via Mini Enterprise in School Projects and Young Enterprise, 'enterprise projects' have been introduced to the primary sector and fit well with other cross-curricular projects. The framework of the government's guidelines on the curriculum for 5 to 14 year olds is seen by primary teachers to be flexible enough to accommodate this type of activity.

Education–business partnerships

The establishment of education–business partnerships (EBPs) in England and Wales was announced by government in April 1990. They arrived in Scotland the following year. *'There is no absolute definition of what constitutes an EBP. The organisation of a EBP must be sensitive to the strengths, problems and opportunities of each local environment. It must build on the respective and differing structures of education and businesses in each area'*. (*Education Business Partnership: The Learning So Far*. CBI, 1992.).

Education–business partnerships are proposed as the way forward in education–business links.

What is likely to be the most effective strategy for them to follow?

Some respondents were very positive about, and saw a growing role for, education-business partnerships. They were mainly from education authorities where the fledgling education–business partnership had been given a strong lead from education. Others expressed considerable reservations. Some schools, with well established local business links, questioned why they needed an intermediary. There are also question marks over what will happen when schools have greater responsibility for their own budgets and when local government is reorganised. Diminishing resources for education–business partnerships suggest that they will be unable to sustain all the initiative in future.

Small businesses

Many commercially organised schemes stem from large companies, but, small and medium sized firms are under-represented in education–busi-

ness links, given their important role in the economy. While there would appear to be benefits for schools from involving more small employers in link schemes, for individual small companies the costs of participating presently appear to outweigh the benefits.

Currently small and medium sized businesses play a disproportionately small role in education–business links.

How can small business involvement in education be further encouraged?

Progression

Many respondents claimed that there was a progression of education-business link activities which constituted a 'curriculum' and that this was a desirable state. Evidence of progression in terms of the systematic development of pupils' knowledge, understanding, concepts, skills and attitudes was hard to find. Rather, there seemed to be bits of several different progressions reflecting the different strands of education-business links — vocational preparation, enterprise education, economic and industrial education, careers guidance. In addition, the education-business 'progression' rested on the 'fulcrum' of work experience in S4. This had led to preparatory work — such as vocational guidance — and later developments such as work shadowing. But the fulcrum itself was something of an historical accident.

Rationales for education–business links in Scotland and abroad

The researchers found programmes of education-business links in the USA, Australia and Canada which were broadly similar to Scotland. All stemmed from a concern about declining economic competitiveness, seen to be the result of poorly trained managers and workers producing low quality goods and services. Four different rationales for education–business links could be identified from the literature, three of which were apparent in Scotland. These were:

- to achieve *high standards*, that were internationally competitive, in key subjects essential for a high technology, high skill economy (such as the reforms suggested by the Howie report).
- to respond to *changes in the nature of work*, and to develop ability in problem-solving, collaboration, and autonomy (such as TVEI).
- to satisfy *the current perceived needs of employers* to improve basic productivity, nurturing qualities such as punctuality, attendance, and willingness to work. This was most the most common attitude in Scotland, especially in local debates (for example in some Compacts).
- to help young people become *educated critics* as well as creators of economic change. There were some examples of such an approach in Germany, Canada, and the USA, but very few in Scotland.

The researchers found no research-based evidence of links between economic performance and specific features of the education system and concluded that the economic aims of all education–business links schemes are probably overambitious. Giving education more of the 'blame' for economic problems than it should bear, and more responsibility for

recovery than it can deliver, makes the schemes unstable, and liable to be redefined continuously, as solutions fail and problems recur.

How have education–business links developed in Scottish education?

It was generally agreed that the big divide between education and industry in Scotland had been reduced in the last decade by developments in schools, increased collaboration between business and education, and more active policies towards education by business. Forging links with business had become a 'mainstream' activity in many secondary schools, and a growing influence in primary schools. It was no longer the minority enthusiasm of a few schools, nor restricted to school-leavers or low achievers.

Teachers showed considerable commitment to education–business links, at least while TVEI and Compact funding continued. There seemed to be two kinds of 'enthusiast' in schools: those who saw education–business links meeting the needs of employers and those who saw the schemes in educational terms, as a means to an end rather than an end in themselves. Most teachers in Scotland supported this latter role and this is central to understanding what has happened to government and business initiatives in Scottish education over the last decade.

Three patterns of school development were found:

1. *Pre TVEI.* Typical of education–business links before the mid-1980s — voluntary and school-based developments led by individual enthusiasts in schools and vulnerable to changes in personnel.
2. *Major schemes.* Initiatives such as TVEI and Compact are also temporary, but are organised regionally rather than by school management, and are part of national developments.
3. *Local partnerships.* This pattern, based in schools, is that envisaged by education-business partnerships, and sometimes by individual schools which are keen to regain control of education–business links after the ending of national funding. It also fits in with moves to give schools control over their budgets.

The research identified three patterns of school organisation of education–business links.

Where does your institution fit and where do you want to go?

There were signs that education–business initiatives would be given lower priority after the ending of earmarked government funding (TVEI, Compact), and there might be a return to earlier patterns. It also seemed that throughout the 'vocationalist' decade (the 1980s), teachers had given higher priority to other developments (Standard Grade, revised Higher Grade, and National Certificate modules): most education–business initiatives were regarded, in the main, as short-term measures.

The researchers found clear evidence of changed attitudes to business in education, but less evidence of change in the opposite direction. Education talked the business language of 'added value', 'quality assurance', 'delivery', 'vision' and 'mission' statements, while, in general businesses were less familiar with educational developments such as Standard Grade, or National Certificate modules.

What explains these patterns of development in Scotland?

The evidence was impressive: an enormous amount of time, money and energy went into developing education–business links in Scotland. Yet people interviewed often talked about initiatives being high profile and short term. They talked of 'diebacks' — a sense of declining priority for education–business initiatives — or of 'recurrences'— projects which kept turning up in slightly different forms.

The researchers linked the patterns of education–business development to a more general understanding of educational change:

- *Cycles of economic optimism and pessimism* influence policy and lead to both long-term reforms such as Standard Grade and short-term reforms in education–business initiatives.
- *Short-term reforms* can become embedded in classroom practice, or in long-term reforms, but much education–business innovation has been temporary in its effects, or simply resource-based.
- The short-term nature of education–business reforms is encouraged by a number of factors. On the business side, much of the activity is *uncoordinated* and changes have not been integrated with national developments in education. On the education side, initiatives are often *short-term*, and sometimes *relatively unconnected*, even where they retain the same label (for example TVEI Pilot and TVEI Extension). There are widespread reports of 'multiple innovation' and 'reinvention'.
- In addition, the *focus of education–business links* keeps shifting, from 'relevance' for school leavers, through concerns for basic literacy and numeracy, skills, personal development and enterprise, to notions of 'competitive excellence' in key subjects. These are all long-term goals but attention rotates from one focus to the next, fed by waves of pessimism and optimism about the economy.
- This *'carousel' effect* is accentuated by the tendency to overload the schemes with responsibility for reversing economic decline. At a political level, this means that the schemes lack credibility, and in turn this prompts further policy interventions.
- To add to various influences on the focus of education–business initiatives, schools have a powerful influence as they adapt the innovation to match their own values — through a *process of 'domestication'*. For example, in secondary schools TVEI has moved from the status of 'revolution' to 'what we've always wanted to do' in the space of six years, and the stress on learning outcomes has been replaced with an emphasis on management practices.
- The *style of innovations* — based on bidding and contracting, on negotiation, and often on the need for 'ownership' by the teacher, the school, or the education authority — adds to the possibilities of schemes being altered in different situations because at each level the innovation can be renegotiated.

Education–business links seem to have greatest impact when they are part of longer term reforms in education.

How can education–business links be 'embedded' in school development planning and national curriculum initiatives and how can long-term and short-term goals best be integrated?

Education–business link activities are susceptible to shifting definitions and foci.

Can institutions identify their own definitions and goals and stick to them?

How can education–business links be developed further?

Education–business links have encouraged considerable new thinking in Scottish education. But the case studies suggest that practice in education has not changed nearly so much. There is little consensus about the focus or meaning of education–business links, and no certainties about the connections between these activities and effects on the economy—or even effects on learning outcomes. Such uncertainty is an international problem. Frequent shifts in policy or initiatives mean that schemes for linking education and business can neither properly test their hypotheses, nor deliver their promises.

There is little consensus about the focus or meaning of education–business links.

How can greater national and regional clarity of purpose be secured?

The researchers predict that the combination of reduced resources for education–business links, schools managing their own financial affairs, and the long and tangled chains of policy connections between all those involved (UK and Scottish government ministries, education authorities, school managements and boards, businesses, Scottish Enterprise and local enterprise companies) pose considerable problems for the further development of education–business links.

On the basis of the research, however, education–business links can be seen as playing an important educational role in developing pupils, teachers and curricula, as well as opening schools to the world of work and to the community as a whole. Progress can be speeded if realistic timetables and objectives are created, if the tendency towards multiple innovation can be avoided, and if greater cohesion between government departments and initiatives can be achieved. In particular it is suggested that education–business links might be further developed through the following measures:

- generating a debate about education–business links that involves economists as well as business and education;
- evaluating the longer-term learning gains from education–business links, and investigating possible economic consequences;
- concentrating education–business links within long-term reforms of the education system;
- abandoning the notion of an 'education–business curriculum' and concentrating on ways of integrating education–business links into other progressions, both subject-based and social in nature;
- maintaining a central resource on developments in education–business links, research and evaluation, which can be used to inform future developments;
- building research into educational development in order to make it more useful and less retrospective.

Full report of the survey

Plotting Partnership: Education–Business Links in Scotland is available from the Department of Education, University of Stirling, Stirling FK9 4LA, price £12.00 (214 pages plus appendices).

The views expressed in this paper are those of the authors and do not necessarily reflect those of the Scottish Office Education Department who funded the study.

Notes

Education–business links and school development plans

Work experience

Teacher placements

Education–business partnerships

Role of small businesses

Patterns of school organisation of links

Embedding links in the curriculum

Agreeing goals

National and regional clarity of purpose

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